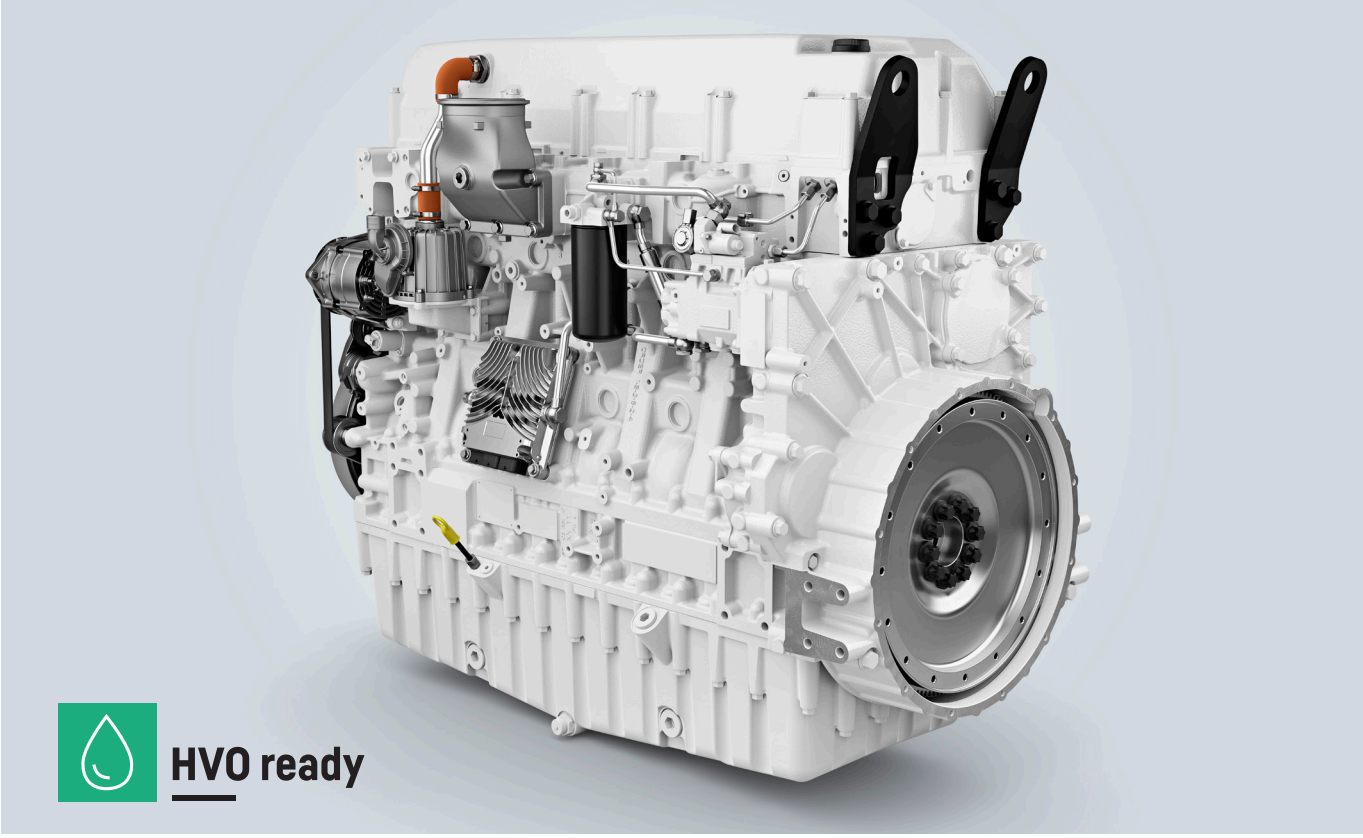
D976 engine for the construction industry



Designed and manufactured by Liebherr, the D976 is one of the best-in-class combustion engines for off-road applications, such as construction. Thanks to its robust design and Liebherr's extensive experience, this 6-cylinder in-line engine is perfectly suited for the toughest environmental conditions. Delivering up to 620 kW with 18 L displacement, the engine provides high power density, and reaches a peak torque of 4000 Nm at 1300 rpm. Not only does the D976 achieve high performance, it also reduces the total cost of ownership by featuring high oil change intervals of more than 1000 hours, and low fuel consumption.

Our engine condition monitoring solution and LiDIA diagnostic tool, together with a long life service further extend reliability and minimise engine down time.

Features:

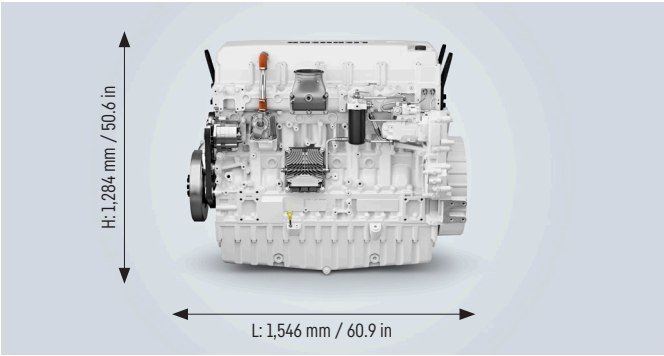
- Robust and highly efficient
- Low total cost of ownership
- Low maintenance effort with maintenance-free valve train and crankcase ventilation systems
- High efficiency turbocharger for more efficiency and reduced fuel consumption
- Limited leakage risk and increased safety
- 2 PTO (power take-off) possibilities with different powers
- Liebherr Engine Control Unit: In-house software development and function capabilities

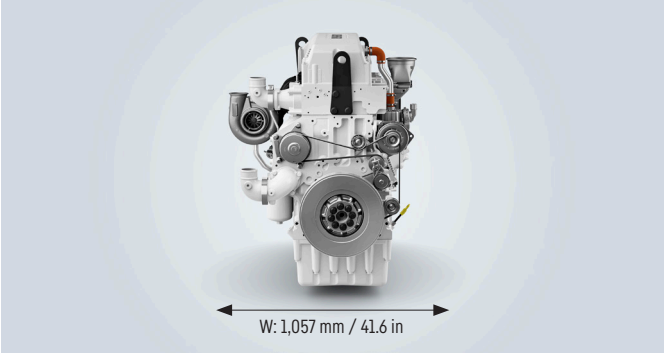
LIEBHERR

Product features and technical data

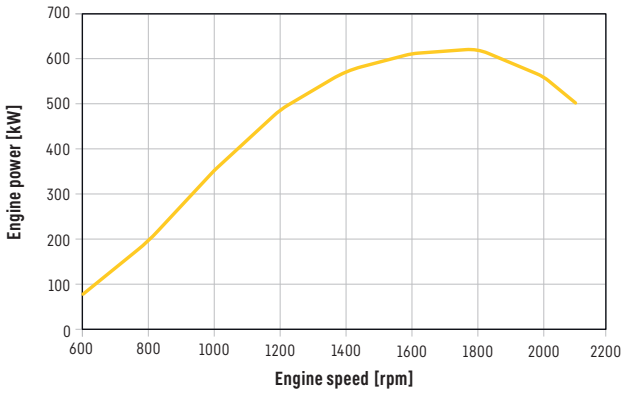
D976*

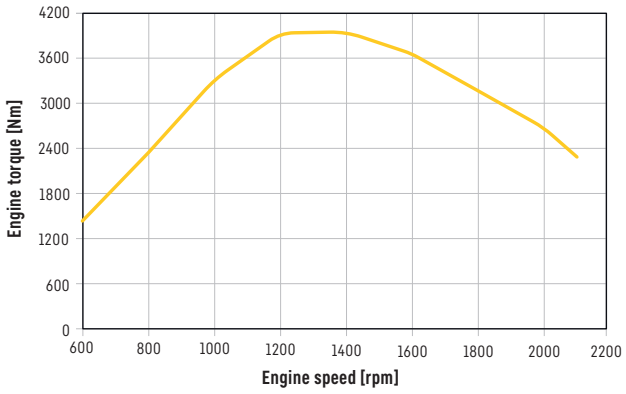
Country of manufacture		Switzerland
Configuration		6 cylinders in-line
Aspiration		Turbocharger
Fuel injection control system		High Pressure Common Rail
Bore	mm (in)	148 (5.8)
Stroke	mm (in)	174 (6.9)
Displacement	L (in³)	18 (1,098.4)
Compression ratio		16.5 : 1
Power rating	kW (hp)	up to 620 (up to 831)
Rated speed	rpm	1,700-1,900
Peak torque	Nm (lb-ft)	4,000 at 1,300 rpm (2,950 at 1,300 rpm)
Fuel consumption at 1900 rpm – full load	g/kWh	208
Fuel consumption at 1900 rpm – full load	L/h	154
Coolant capacity	L	38
Maximum tilt angle feature		(+/- 35° trans. +/- 35° long.)
Lubricant capacity	L	108
Estimated dry weight	kg (lbs)	1,830 (4,034)





Engine power and torque curves*





* Tolerance at nominal power and nominal torque declaration are according to standard ECE-R.24/ISO 9249.
Tolerance at nominal specific fuel consumption declaration are valid for diesel fuel fulfilling standard DIN EN 590 with a min of LHV 42780 kJ/kg.

Product specifications and options

Product specifications

Twin scroll turbocharger
Integrated centrifugal water pump
Integrated closed crankcase ventilation system
Fuel cooled Engine Control Unit by Liebherr
Automatic poly-V belt tensioner for higher change interval time
Liebherr high performance injection system
Ultrafine fiber oil filter
Flywheel SAE2
Fuel fine filter on engine
Engine Control Unit: Liebherr ECU3

Optional specifications

Air compressor upon request
Exhaust flap upon request
Cold start (-25/-40 °C) upon request
Oil filter upon request
Coolant inlet & outlet (90° elbow) upon request
Oil pan (flat or central) upon request
Oil level sensor dipstick & fil-in side to be chosen upon request
Fuel filter (removed or assembled) upon request
Oil filing pan (cold or hot side) upon request
Generator 24 V (140 or 180A) upon request
A/C Compressor upon request
Flywheel housing SAE1 & Flywheel SAE14 upon request
Engine feet (transport bracket) upon request
Flywheel housing SAE0 & Flywheel SAE18 upon request
Several air and water connections upon request
Hydraulic valve adjuster upon request
Hydrogenated vegetable oil (HVO) approval upon request
LiDIA diagnostic tool upon request

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